

Claims

- [c1] 1. An active matrix organic light emitting diode (AMOLED) driving control circuit for dynamically adjusting the white balance of an AMOLED display panel, comprising:
- a gate driving circuit for generating a horizontal scan signal to control a scan line of the AMOLED display panel;
 - a source driving circuit for applying a video data to the AMOLED display panel according to the horizontal scan signal;
 - a programmable voltage generator for generating a plurality of programmable voltage sources that serves as power sources for driving red, green and blue pixels within the AMOLED display panel; and
 - a timing control circuit coupled to the gate driving circuit, the source driving circuit and the programmable voltage generator for controlling the timing of the submission of the video data between the gate driving circuit and the source driving circuit and dynamically adjusting the voltage value of the programmable voltage sources according to the usage status of the AMOLED display panel.

[c2] 2. The AMOLED driving control circuit of claim 1, wherein the timing control circuit comprises:
a source and gate timing data control circuit for controlling the timing of the submission of the video data between the gate driving circuit and the source driving circuit;
an interface processing circuit serving as a signal transmission interface; and
a white balance adjusting circuit coupled to the source and gate timing data control circuit and the interface processing circuit for adjusting the parameters for setting the voltage value of the programmable voltage sources according to the usage status of the AMOLED display panel and submitting the parameters to the programmable voltage generator through the interface processing circuit.

[c3] 3. The AMOLED driving control circuit of claim 2, wherein the white balance adjusting circuit at least comprises:
a first comparator for comparing the video data with a preset data value and generating a first compare signal;
a counter coupled to the first comparator for counting a count value based on the first compare signal;
a second comparator coupled to the counter for comparing the count value with a preset count value and generating a second compare signal;

an AND logic unit coupled to the second comparator for generating an adjusting signal based on the second compare signal after the passage of a preset time period; and

a parameter setting unit coupled to the AND logic unit for providing the parameter for setting the voltage value of the programmable voltage sources according to the adjusting signal and transmitting the parameter to the programmable voltage generator through the interface processing circuit.

[c4] 4. The AMOLED driving control circuit of claim 3, wherein the preset data value, the preset count value and the preset time period are stored inside a read only memory unit.

[c5] 5. The AMOLED driving control circuit of claim 3, wherein the preset data value, the preset count value and the preset time period are stored inside an electrically erasable programmable read only memory unit.

[c6] 6. The AMOLED driving control circuit of claim 3, wherein the preset data value, the preset count value and the preset time period are stored inside a flash memory unit.

[c7] 7. The AMOLED driving control circuit of claim 2, wherein interface processing circuit comprises a serial transmis-

sion interface.

[c8] 8. A method of dynamically adjusting the white balance of an active matrix organic light emitting diode (AMOLED) display panel using an AMOLED driving control circuit, comprising:

providing a plurality of programmable voltage sources to serve as power sources for driving red, green and blue pixels within the AMOLED display panel; and
adjusting the voltage value of the programmable voltage sources dynamically according to the usage status of the AMOLED display panel.

[c9] 9. The adjusting method of claim 8, wherein the step of adjusting the voltage value of the programmable voltage sources dynamically according to the usage status of the AMOLED display panel comprises:

receiving a video data;
comparing the video data with a preset data value;
increasing the value inside a counter when the video data is not less than the preset data value;
comparing the counter value with a preset count value;
and
adjusting the voltage value of the programmable voltage sources after the passage of a preset time period when the count value is not less than the preset count value.